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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/361,312	07/27/1999	AKIRA EZAWA	103903	5376

25944 7590 01/11/2005

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EXAMINER	
VILLECCO, JOHN M	
ART UNIT	**PAPER NUMBER**
2612	

DATE MAILED: 01/11/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/361,312	EZAWA, AKIRA	
	Examiner	Art Unit	
	John M. Villecco	2612	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 July 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-10* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *10* is/are allowed.

6)☒ Claim(s) *1,2 and 5-9* is/are rejected.

7)☒ Claim(s) *3 and 4* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *14 October 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

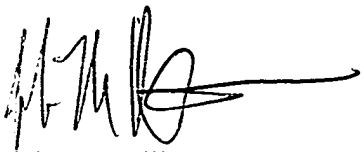
3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



John M. Villecco
January 5, 2005

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed July 15, 2004 have been fully considered but they are not persuasive.

2. Regarding claim 1, applicant has amended the claim to include the limitation of a mirror mechanism and further that the photographic preparations include a mirror down operation. Applicant goes on to argue that the combination of Fossum and Ohnuki is improper because Fossum actually teaches away from the use of a mechanical operation for photoelectric conversion. However, Fossum only teaches away from the use of a mechanical shutter, not of a mirror being used in an SLR camera. Ohnuki is used merely to show performing a mirror down operation before photographing a next image. As mentioned in the previous office action, it is extremely well known in the art to perform focusing and mirror operations in an electronic camera. Therefore, one of ordinary skill in the art would have been inclined to include a mirror in a camera which uses the imager of Fossum in order to perform a viewfinding operation using the mirror. Since Ohnuki is only used to show a mirror down operation in between photographing images, the combination of Fossum and Ohnuki is proper.

3. For the reasons stated above, the rejection of the claim 1 from the previous office action will be repeated.

4. As for claim 9, applicant has amended the claim to include the new limitation of a mirror mechanism and further that the photographic preparations include a mirror down operation. Applicant goes on to argue that Sasaki does not specifically disclose the ability to detect when

the read operation is completed. However, as discussed in column 9, lines 5-16, Sasaki discloses that after a first pixel shift is completed, a second exposure is started. Thus the system is capable of discerning when a read operation (pixel shift) is completed, and then starting a second image capture, as stated in claim 9. Please see the new grounds of rejection presented below.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 1, 2, and 5-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fossum (U.S. Patent No. 6,486,503) in view of Ohnuki et al. (U.S. Patent No. 4,974,003).

7. Regarding ***claim 1***, Fossum discloses a focal plane array comprised of many imaging cells for capturing an image by way of photoelectric conversion and reads out the charge to form an image signal. Additionally, Fossum discloses the ability to reset the imager during a readout period of the imaging sensor. The ability to reset the imager serves a preparation device for photographing the next image. For without a reset of the imaging device, the next image signal would not be a quality signal. See column 10, lines 5-12.

Fossum, however, fails to specifically disclose that the photographing preparations include a mechanical operation. Ohnuki, on the other hand, discloses that it is well known in the art to perform a mirror down operation in a camera between capturing frames in a continuous shooting mode in order to maintain a frame speed. Ohnuki discloses that after performing a first

photographing operation, a mirror down is performed in order to prepare the camera for the second photographing operation. See column 5, lines 65-68. Additionally, an auto focus is performed during the time until the second photograph is performed. Furthermore, Official Notice is taken as to the fact that it is well known in the art to perform autofocusing and mirror-down operations in an electronic camera. If used in the electronic camera of Fossum, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include a mirror-down and focus during a readout period so that the camera is placed into condition for taking a second image and would not have to wait for the read out period to end in order to begin the second photograph. This would allow preparing for the second image faster and thus allowing for a quality image taken in a continuous shooting mode.

8. As for ***claim 2***, as mentioned above, Ohnuki discloses that it is well known in the art to prepare a camera for the taking of a subsequent image during a continuous shooting mode in order to maintain a frame speed. Ohnuki discloses that after performing a first photographing operation, photographing preparations are performed in order to prepare the camera for the second photographing operation. The photographing operations include a shutter charging and mirror-down. See column 5, lines 65-68. Additionally, an auto focus is performed during the time until the second photograph is performed.

9. Regarding ***claim 5,*** Ohnuki discloses a continuous shooting mode wherein the photographic preparations, which include a shutter charging and mirror-down (col. 5, lines 65-68), are performed in between successive photographs. Additionally, an auto focus is performed during the time until the second photograph is performed.

10. As for ***claim 6***, Ohnuki discloses a continuous shooting mode wherein the photographic preparations, which include a shutter charging and mirror-down (col. 5, lines 65-68), are performed in between successive photographs. Additionally, an auto focus is performed during the time until the second photograph is performed. Furthermore, Ohnuki discloses motor (MTR1), motor (MTR2), and lens motor (LMTR) used to drive the shutter charge, mirror, and focusing lens, respectively. (col. 3, line 48 – col. 4, line 15).

11. With regard to ***claim 7***, Ohnuki discloses a continuous shooting mode wherein the photographic preparations, which include a shutter charging and mirror-down (col. 5, lines 65-68), are performed in between successive photographs. Additionally, an auto focus is performed during the time until the second photograph is performed. Furthermore, Ohnuki discloses motor (MTR1), motor (MTR2), and lens motor (LMTR) used to drive the shutter charge, mirror, and focusing lens, respectively. (col. 3, line 48 – col. 4, line 15). The lens motor is used to adjust the focusing lens. The focusing lens is moved a plurality of times in between sequential shots in order to effect the proper focus. See Figure 2b. If used in the electronic camera of Fossum, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include a mirror-down and focus during a readout period so that the camera is placed into condition for taking a second image and would not have to wait for the read out period to end in order to begin the second photograph. This would allow preparing for the second image faster and thus allowing for a quality image taken in a continuous shooting mode.

12. Regarding ***claim 8***, Fossum discloses applying the reset during the readout period. It would have been obvious to one of ordinary skill in the art at the time the invention was made to time the reset of Fossum so that the reset does not occur during an electrical charge read period

in order to prevent charge from being discharged when it is supposed to be collecting in the well. Therefore, the charge of the subject image will be collected in the well and not reset.

13. **Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fossum (U.S. Patent No. 6,486,503) in view of Sasaki (U.S. Patent No. 6,243,136) and further in view of Ohnuki et al. (U.S. Patent No. 4,974,003).**

14. Regarding ***claim 9***, Fossum discloses a focal plane array comprised of many imaging cells for capturing an image by way of photoelectric conversion and reads out the charge to form an image signal. Additionally, Fossum discloses the ability to reset the imager during a readout period of the imaging sensor. The ability to reset the imager serves a preparation device for photographing the next image. For without a reset of the imaging device, the next image signal would not be a quality signal. See column 10, lines 5-12.

Fossum, however, fails to specifically disclose that upon detection of a completed readout, another image is captured. Sasaki, on the other hand, discloses that it well known in the art to capture another image after reading out the pixels of a previous exposure. Sasaki teaches an imager for capturing successive images in which after a readout period, the imager captures a second image. This is done in order to create a high resolution image. See column 10, lines 16-57. Clearly, the imager of Sasaki would include a mechanism for detecting when the read operation is completed so that the subsequent operations could be performed. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to capture another image after the readout period in Fossum so that a high resolution image can be captured.

Additionally, neither Fossum nor Sasaki specifically disclose that the photographing preparations include a mechanical operation. Ohnuki, on the other hand, discloses that it is well known in the art to perform a mirror down operation in a camera between capturing frames in a continuous shooting mode in order to maintain a frame speed. Ohnuki discloses that after performing a first photographing operation, a mirror down is performed in order to prepare the camera for the second photographing operation. See column 5, lines 65-68. Additionally, an auto focus is performed during the time until the second photograph is performed. Furthermore, Official Notice is taken as to the fact that it is well known in the art to perform autofocusing and mirror-down operations in an electronic camera. If used in the electronic camera of Fossum, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include a mirror-down and focus during a readout period so that the camera is placed into condition for taking a second image and would not have to wait for the read out period to end in order to begin the second photograph. This would allow preparing for the second image faster and thus allowing for a quality image taken in a continuous shooting mode.

Allowable Subject Matter

15. **Claims 3 and 4 are objected to** as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

16. The following is a statement of reasons for the indication of allowable subject matter:

Regarding ***claim 3***, the primary reason for indication of allowable subject matter is that the prior art fails to teach or reasonably suggest controlling all of a shutter mechanism, mirror

mechanism, and an aperture mechanism to prepare for a second image during an electrical charge read period.

Regarding ***claim 4***, the primary reason for indication of allowable subject matter is that the prior art fails to teach or reasonably suggest controlling all of a focal adjustment device, mirror mechanism, and a photometric device to prepare for a second image during an electrical charge read period.

17. **Claim 10 is allowed.**

18. The following is an examiner's statement of reasons for allowance:

Regarding ***claim 10***, the primary reason for allowance is that the prior art fails to teach or reasonably suggest a time count device that times part of a length of time required for the photographing preparation and then adjusts the operation timing to ensure that the electrical charge read period does not overlap a subject image for the next frame.

19. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any response to this final action should be mailed to:

Box AF
Commissioner of Patents and Trademarks
Washington, D.C. 20231

or faxed to:

(703) 308-6306, (for formal communications; please mark "**EXPEDITED PROCEDURE**"; for informal or draft communications, please label "**PROPOSED**" or "**DRAFT**")

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington. VA., Sixth Floor (Receptionist).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John M. Villecco whose telephone number is (703) 305-1460. The examiner can normally be reached on Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wendy Garber can be reached on (703) 305-4929. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.